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OMRON

CJ2 FAMILY

New PLCs with a proven track record



» Flexibility in communication

» Faster machine development

» Innovation through evolution

realizing

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Innovation without growing pains

As a modern machine manufacturer you need to continuously increase the intelligence and flexibility of your product to remain competitive. But you also need to be absolutely certain that it all works perfectly, first time, every time.

The CJ2 is the result of years of experience as market leader in the field of modular controllers and represents a logical next step in controller design. It offers greater performance and faster I/O response as well as extreme scalability - so you will only need one family. In addition, programming, debugging and networking are faster and easier. Welcome to the new CJ2 Family: built to give you innovation without growing pains.

Although CJ2 can directly replace any CJ1 CPU, it offers the following additional significant advantages:

Open to the world
Data communication is via standard Ethernet port with EtherNet/IP Data Link function.

Always accessible
The standard USB and Ethernet ports give you instant access for programming, commissioning, maintenance and troubleshooting.

Learn one, know them all
Thanks to the wide variety of CPUs with consistent architecture across all PLC families, you only need to learn one, and you will know them all.

Highly flexible
Adapt the PLC to your needs with the wide variety of compatible CJ1 Family I/O units (nearly 100).

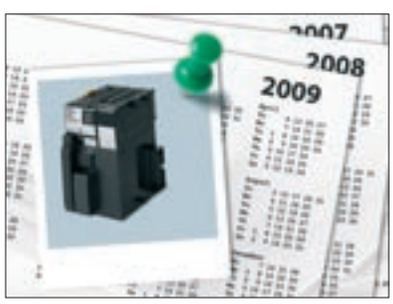


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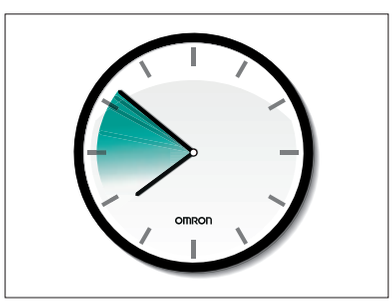


The wide range of CPUs means you need only to get familiar with one PLC family for use in everything from simple stand-alone applications up to networked, high-speed machines.

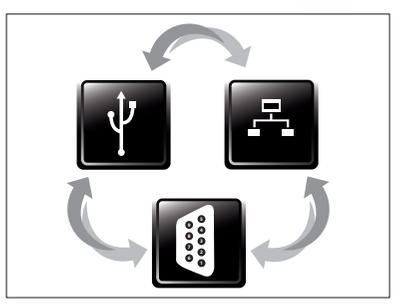
Inspired by proven technology



Proven track record
The CJ2 Family is based on the highly popular CJ1, which after its launch in 2001 now operates in an extraordinary variety of applications all over the world. Now, as the natural successor, the CJ2 combines that field-proven technology with a wider choice of CPUs, more speed and memory, and a wider variety of communication interfaces.



Faster development
Tag-based communications technology will simplify the interfacing of the PLC to the outside world. On-line debugging improvements also help to accelerate software development so you can change the code and test the results quickly. The added function block memory will allow you to improve program structure and reuse code even in the the entry-level models.



Talks to all
The CJ2 Family supports major open networking technologies including:
- Ethernet-based communication based on open industrial standards
- Serial communications over RS-232 C, RS-422, RS-485 and USB
- The major open Fieldbus standards
- Fast and accurate motion control networks.

CAN
MECHATROLINK-II
MODBUS
EtherCAT
DeviceNet
EtherNet/IP

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Built to answer your needs

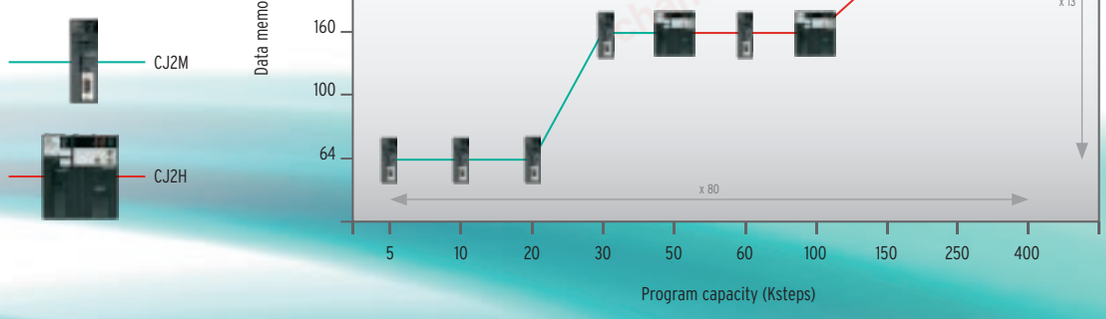
Omron has used its long experience as a specialist machine automation supplier to develop CJ2. The result is an extremely reliable PLC that is also a powerful example of our commitment to continuous improvement. The CJ2 Family is a major opportunity to innovate and simultaneously reduce costs: now and in the future, because we are continuously improving its functionality. What's more, moving up from other Omron PLCs to CJ2 couldn't be easier: no learning curves, no re-tooling and no unnecessary reprogramming. It's the obvious choice for modern machine builders.



Power supply Pulse I/O CPUs

Wide range CPU capacity

To stay ahead in the machine-building business, you need to grow with your end-users' needs. Faster production, better quality control and better traceability require more speed and more memory. That's why the CJ2 Family offers a wide range of CPUs- to suit any task. From 5 Ksteps program capacity and 64 Kwords memory, right up to 400 Ksteps capacity and 832 Kwords.



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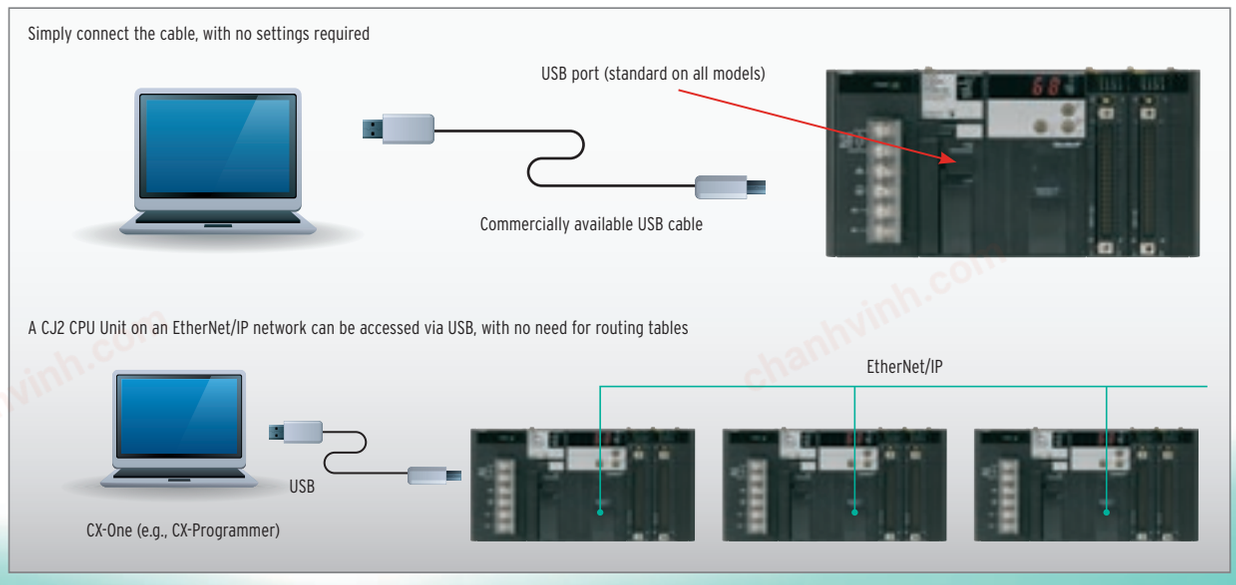


Communication | Motion | Analog I/O | Digital I/O

Higher precision
In addition to the greater CPU processing performance, Omron has also added new high-speed I/O units, such as analog input units with 20µs conversion time, while new PLC instructions provide immediate access to fast I/O data. The result is even more real-time reliability.

Select what you need
With CJ2 you can also still connect to the existing CJ1 I/O units. You can thus benefit from CJ2's improvements without redesigning the entire system.

Easy connection by USB



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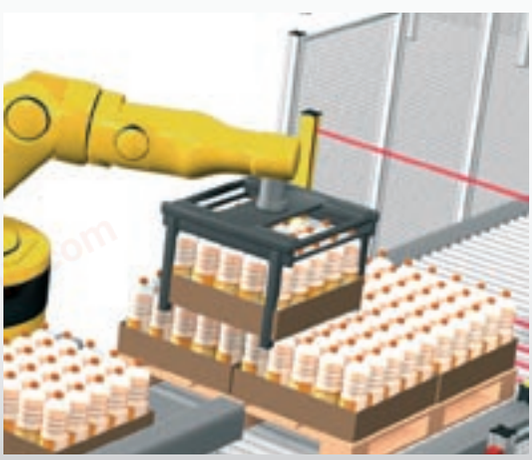
One family - two performance classes

CJ2M for basic machine automation

The CJ2M Series is ideal for packaging and general machine automation needs. Connectivity is assured thanks to the built-in USB port and the choice of Ethernet and RS-232C/422/485 interfaces on the CPU.



- Always accessible through standard USB port
- Standard Ethernet port with EtherNet/IP Data Link function
- Wide range of program capacities, from 5 Ksteps to 60 Ksteps
- Pulse I/O add-on modules have a special connection to the CPU and are controlled by convenient positioning instructions
- Serial option board for CJ2M-CPU3*
- Dedicated function block memory ensures efficient execution of function block software modules



Available as of Q3 2010

Pulse I/O modules
By mounting optional pulse I/O modules, you can extend the functionality of any CJ2M CPU with:
- interrupt inputs
- high-speed counters
- incremental encoder inputs
- pulse frequency control outputs
- pulse width control outputs.

Up to two modules can be mounted per CPU, allowing direct control of four motion axes. Using dedicated instructions, these axes can be controlled directly by the PLC program, without communication delays.

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CJ2H for high speed, high capacity

The CJ2H Series is ideal for advanced machine automation needs, such as those required in image processing inspection of electrical components and high speed sorting on conveyors.

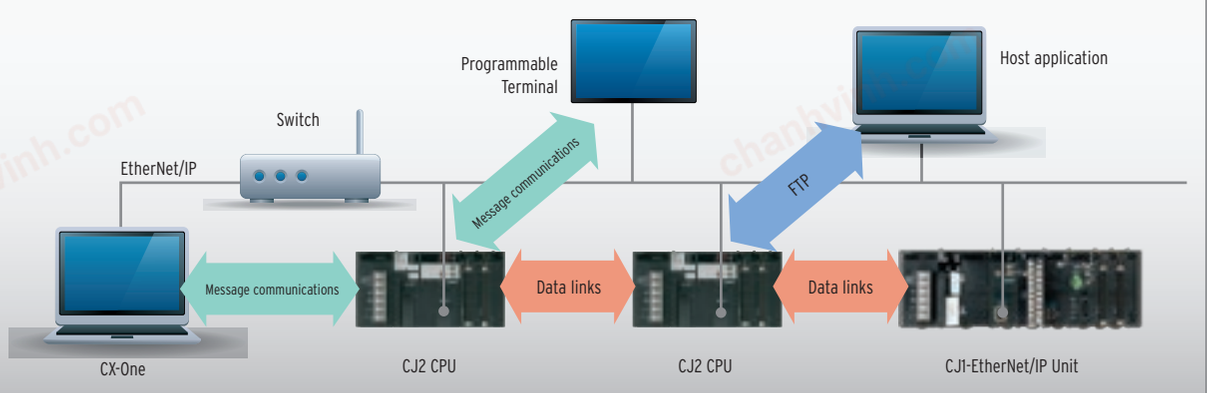
Fast and accurate control
CJ2H has special instructions that provide direct data access to high-speed analog I/O units and serial communication units. Position Control units can be synchronised for coordinated control of up to 20 axes.



- Always accessible through standard USB port
- Standard Ethernet port with EtherNet/IP Data Link function
- High program capacity of up to 400K Steps
- Higher precision for machine operation and processing quality
- Immediate refreshing of basic I/O ensures real-time processing
- Faster response means higher precision and better quality
- High data memory capacity of up to 832 Kwords

Multi-functional Ethernet Port
CJ2's built-in Ethernet port supports the EtherNet/IP protocol for fast tag-based data links. Using symbolic names to define data links will help to reduce errors in modular system design.

Of course you can also use the same Ethernet port with programming, monitoring, file transfers or message communications through standard IT protocols.



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Model	CJ2M-CPU11	CJ2M-CPU12	CJ2M-CPU13	CJ2M-CPU14	CJ2M-CPU15	CJ2M-CPU31	CJ2M-CPU32	CJ2M-CPU33	CJ2M-CPU34	CJ2M-CPU35
I/O Capacity/Mountable Units	2,560 Points/40 Units (3 Expansion Racks Max.)									
Program Capacity	5K steps	10K steps	20K steps	30K steps	60K steps	5K steps	10K steps	20K steps	30K steps	60K steps
Data Memory Capacity	DM: 32K words, EM: 32K words/Bank x 1 Bank			DM: 32K words, EM: 32K words/Bank x 4 Banks		DM: 32K words, EM: 32K words/Bank x 1 Bank			DM: 32K words, EM: 32K words/Bank x 4 Banks	
Data Tracing Memory	8K words									
Source/Comment Memory	1 Mbyte									
Function Block Definitions	256			2,048		256			2,048	
Function Block Instances	256			2,048		256			2,048	
Function Block Program Area	20K Steps									
Built-in Ethernet	No					Yes (with EtherNet/IP Functionality)				
Built-in USB	Yes									
Built-in RS-232 Port	Yes					No				
Communication Option Board Slot	No					Yes				
LD Instruction Execution Time	40 ns									
Pulse I/O add-on modules	Supported*									
Synchronous Unit Operation	No									
User-defined Data Structures**	Yes									
Unit Size (HxWxD)	90 x 31 x 84.5 mm					90 x 62 x 84.5 mm				

* Unit Version 2.0 or Later
** CX-ONE V4 Required

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Model	CJ2H-CPU64	CJ2H-CPU65	CJ2H-CPU66	CJ2H-CPU67	CJ2H-CPU68	CJ2H-CPU64-EIP	CJ2H-CPU65-EIP	CJ2H-CPU66-EIP	CJ2H-CPU67-EIP	CJ2H-CPU68-EIP
I/O Capacity/Mountable Units	2,560 Points/40 Units (3 Expansion Racks Max.)									
Program Capacity	50K steps	100K steps	150K steps	250K steps	400K steps	50K steps	100K steps	150K steps	250K steps	400K steps
Data Memory Capacity	DM: 32K words, EM: 32K words/ Bank x 4 Banks		DM: 32K words, EM: 32K words/Bank x 10 Banks	DM: 32K words, EM: 32K words/Bank x 15 Banks	DM: 32K words, EM: 32K words/Bank x 25 Banks	DM: 32K words, EM: 32K words Bank x 4 Banks		DM: 32K words, EM: 32K words/Bank x 10 Banks	DM: 32K words, EM: 32K words/Bank x 15 Banks	DM: 32K words, EM: 32K words/Bank x 25 Banks
Data Tracing Memory	8K words		16K words	32 K words		8K words		16K words	32 K words	
Source/Comment Memory	3.5 Mbytes									
Function Block Definitions	2,048									
Function Block Instances	2,048									
Function Block Program Area	No									
Built-in Ethernet	No					Yes (with EtherNet/IP Functionality)				
Built-in USB	Yes									
Built-in RS-232 Port	Yes									
Communication Option Board Slot	No									
LD Instruction Execution Time	16 ns									
Pulse I/O add-on modules	Not Supported									
Synchronous Unit Operation	Yes (with CJ1W-NC Position Control Units)									
User-defined Data Structures**	Yes									
Unit Size (HxWxD)	90 x 49 x 74.5 mm					90 x 80 x 74.5 mm				

** CX-ONE V4 Required

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Specifications

General specifications

Item		CJ2H-					CJ2M-	
		CPU64(-EIP)	CPU65(-EIP)	CPU66(-EIP)	CPU67(-EIP)	CPU68(-EIP)	CPU1_	CPU3_
Enclosure		Mounted in a panel						
Grounding		Less than 100 Ω						
CPU Rack Dimensions in mm (H×D×W)		CJ2H-CPU6_-EIP: 90×65×80 CJ2H-CPU6_: 90×65×49					90×75×31	90×75×62
Weight		CJ2H-CPU6_-EIP: 280 g or less CJ2H-CPU6_: 190 g or less					130 g or less	190 g or less*1
Current Consumption		CJ2H-CPU6_-EIP: 5 VDC, 0.82 A CJ2H-CPU6_: 5 VDC, 0.42 A					5 VDC, 0.5 A	5 VDC, 0.7 A
Use Environment	Ambient Operating Temperature	0 to 55°C						
	Ambient Operating Humidity	10% to 90%						
	Atmosphere	Must be free from corrosive gases.						
	Ambient Storage Temperature	-20 to 70°C (excluding battery)						
	Altitude	2,000 m or less						
	Pollution Degree	2 or less: Conforms to JIS B3502 and IEC 61131-2.						
	Noise Immunity	2 kV on power supply line (Conforms to IEC 61000-4-4.)						
	Overvoltage Category	Category II: Conforms to JIS B3502 and IEC 61131-2.						
	EMC Immunity Level	Zone B						
	Vibration Resistance	Conforms to IEC60068-2-6. 5 to 8.4 Hz with 3.5 mm amplitude, 8.4 to 150 Hz Acceleration of 9.8 m/s² for 100 min in X, Y, and Z directions (10 sweeps of 10 min each = 100 min total)						
	Shock Resistance	Conforms to IEC60068-2-27. 147 m/s², 3 times in X, Y, and Z directions (100 m/s² for Relay Output Units)						
Battery	Life	5 years at 25°C						
	Model	CJ1W-BAT01						
Applicable Standards		Conforms to cULus, EC, NK, and LR Directives.					Conforms to cULus and EC Directives.	

*1 Without a Serial Option Board

Performance specifications

Items			CJ2H-					CJ2M-				
			CPU64(-EIP)	CPU65(-EIP)	CPU66(-EIP)	CPU67(-EIP)	CPU68(-EIP)	CPU11/31	CPU12/32	CPU13/33	CPU14/34	CPU15/35
User memory			50K steps	100K steps	150K steps	250K steps	400K steps	5K steps	10K steps	20K steps	30K steps	60K steps
I/O bits			2,560 bits									
Processing speed	Overhead processing time		Normal mode: CJ2H-CPU__-EIP:200 µs*1 CJ2H-CPU__: 100 µs					Normal mode: CJ2M-CPU3_: 270 µs*1 CJ2M-CPU1_: 160 µs				
	Execution time		Basic instructions: 0.016 µs min.; Special instructions: 0.048 µs min.					Basic instructions: 0.04 µs min.; Special instructions: 0.06 µs min.				
	Interrupts	I/O interrupts and external interrupts	Interrupt task startup time: 26 µs or 17 µs*2 (30 µs for unit version 1.0) Return times to cyclic tasks: 11 µs or 8 µs*2 (15 µs for unit version 1.0)					Interrupt task startup time: 31 µs Return times to cyclic tasks: 10 µs				
		Scheduled interrupts	Minimum time interval: 0.2 ms or 0.1 ms*2 (set in 0.1 ms increments)					Minimum time interval: 0.4 ms (set in 0.1 ms increments)				
			Interrupt task startup time: 22 µs or 13 µs*2 (27 ìs for unit version 1.0) Return time to cyclic task: 11 µs or 8 µs*2 (15 ìs for unit version 1.0)					Interrupt task startup time: 30 µs Return time to cyclic task: 11 µs				
Maximum number of connectable units			Total per CPU Rack or Expansion Rack: 10 Units max.; Total per PLC: 40 Units max.									
	Basic I/O units		No limit However, a maximum of two CJ1W-INT01 Interrupt Input Units can be mounted.									
	Special I/O units		Units for up to 96 unit numbers can be mounted. (Unit numbers run from 0 to 95. Units are allocated between 1 and 8 unit numbers.)									
	CPU bus units		CJ2H-CPU6_-EIP: 15 Units max. CJ2H-CPU6_: 16 Units max.					CJ2M-CPU3_: 15 Units max. CJ2M-CPU1_: 16 Units max.				
	Slots for which interrupts can be used		CJ2H-CPU6_-EIP: Slots 0 to 3 on CPU Rack CJ2H-CPU6_: Slots 0 to 4 on CPU Rack					Slots 0 to 4 on CPU Rack				
Maximum number of expansion racks			3 max.									
CIO srea	I/O area		2,560 bits (160 words): Words CIO 0000 to CIO 0159									
	Link area		3,200 bits (200 words): Words CIO 1000 to CIO 1199									
	Synchronous data refresh area		1,536 bits (96 words): Words CIO 1200 to CIO 1295					–				
	CPU bus unit area		6,400 bits (400 words): Words CIO 1500 to CIO 1899									
	Special I/O unit area		15,360 bits (960 words): Words CIO 2000 to CIO 2959									
	Serial PLC link words		–					1,440 bits (90 words): Words CIO 3100 to CIO 3189				
	DeviceNet area		9,600 bits (600 words): Words CIO 3200 to CIO 3799									
	Internal I/O area		3,200 bits (200 words): Words CIO 1300 to CIO 1499 37,504 bits (2,344 words): Words CIO 3800 to CIO 6143 Cannot be used for external I/O.									
Work area			8,192 bits (512 words): Words W000 to W511 Cannot be used for external I/O.									
Holding area			8,192 bits (512 words): Words H000 to H511 Bits in this area maintain their ON/OFF status when PLC is turned OFF or operating mode is changed. Words H512 to H1535: These words can be used only for function blocks. They can be used only for function block instances (i.e., they are allocated only for internal variables in function blocks).									

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Items			CJ2H-					CJ2M-				
			CPU64(-EIP)	CPU65(-EIP)	CPU66(-EIP)	CPU67(-EIP)	CPU68(-EIP)	CPU11/31	CPU12/32	CPU13/33	CPU14/34	CPU15/35
Auxiliary area			Read-only: 31,744 bits (1,984 words) • 7,168 bits (448 words): Words A0 to A447 • 24,576 bits (1,536 words): Words A10000 to A11535[*3] Read/write: 16,384 bits (1,024 words) in words A448 to A1471[*3]									
Temporary area			16 bits: TR0 to TR15									
Timer area			4,096 timer numbers (T0000 to T4095 (separate from counters))									
Counter area			4,096 counter numbers (C0000 to C4095 (separate from timers))									
DM area			32k words[*4] • DM Area words for Special I/O Units: D20000 to D29599 (100 words × 96 Units) • DM Area words for CPU Bus Units: D30000 to D31599 (100 words × 16 Units)									
EM area			32k words/bank × 25 banks max.: E00_00000 to E18_32767 max.[*4,*5]					32k words/bank × 4 banks max.: E00_00000 to E3_32767 max.[*4]				
			32K words × 4 banks	32K words × 4 banks	32K words × 10 banks	32K words × 15 banks	32K words × 25 banks	32K words × 1 bank			32K words × 4 banks	
	Banks for which bits can be forceset/ reset[*6]	Using EM area forcesetting/ resetting	Banks 0 to 3 hex	Banks 0 to 3 hex	Banks 0 to 9 hex	Banks 0 to E hex	Banks 0 to 18 hex	Bank 0 hex			Banks 0 to 3 hex	
		Using automatic address allocation specifications	Bank 3 hex	Bank 3 hex	Banks 6 to 9 hex	Banks 7 to E hex	Banks 11 to 18 hex	–				
Index registers			IR0 to IR15 These are special registers for storing PLC memory addresses for indirect addressing. (Index Registers can be set so that they are unique in each task or so that they are shared by all tasks.)									
Cyclic task flag area			128 flags									
Memory card			128 MB, 256 MB, or 512 MB									
Operating modes			PROGRAM mode: Programs are not executed. Preparations can be executed prior to program execution in this mode. MONITOR mode: Programs are executed, and some operations, such as online editing, and changes to present values in I/O memory, are enabled in this mode. RUN mode: Programs are executed. This is the normal operating mode.									
Execution mode			Normal mode									
Programming languages			Ladder Logic (LD) Sequential Function Charts (SFC) Structured Text (ST) Instruction Lists (IL)									
Function blocks	Maximum number of definitions		2,048					256			2,048	
	Maximum number of instances		2,048					256			2,048	
FB program area			–					20K steps				
Tasks	Type of tasks		Cyclic tasks Interrupt tasks (Power OFF interrupt tasks, scheduled interrupt tasks, I/O interrupt tasks, and external interrupt tasks)									
	Number of tasks		Cyclic tasks: 128 Interrupt tasks: 256 (Interrupt tasks can be defined as cyclic tasks to create extra cyclic tasks. Therefore, the total number of cyclic tasks is actually 384 max.)									
Symbols (Variables)	Type of symbols		Local symbols: Can be used only within a single task in the PLC. Global symbols: Can be used in all tasks in the PLC. Network symbols (tags)[*7]: I/O memory in the CPU Unit can be externally accessed using symbols, depending on parameter settings.									
	Data type of symbols		BOOL (bit) UINT (one-word unsigned binary) UDINT (two-word unsigned binary) ULINT (four-word unsigned binary) INT (one-word signed binary) DINT (two-word signed binary) LINT (four-word signed binary) UINT BCD (one-word unsigned BCD)[*7] UDINT BCD (two-word unsigned BCD)[*7] ULINT BCD (four-word unsigned BCD)[*7] REAL (two-word floating-point) LREAL (four-word floating-point) CHANNEL (word) NUMBER (constant or number) WORD (one-word hexadecimal) DWORD (two-word hexadecimal) LWORD (four-word hexadecimal) STRING (1 to 255 ASCII characters) TIMER (timer)[*8] COUNTER (counter)[*8] User-defined data types (data structures)[*9]									
	Maximum size of symbol		32k words									
	Array symbols (Array variables)		One-dimensional arrays									
	Number of array elements		32,000 elements max.									
	Number of registrable network symbols (Tags)[*10]		20,000 max.					2,000 max.				
	Length of network symbol (Tag) name[*10]		255 bytes max.									
	Encoding of network symbols (Tags)[*10]		UTF-8									

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Items		CJ2H-					CJ2M-				
		CPU64(-EIP)	CPU65(-EIP)	CPU66(-EIP)	CPU67(-EIP)	CPU68(-EIP)	CPU11/31	CPU12/32	CPU13/33	CPU14/34	CPU15/35
Data Tracing	Memory Capacity	8,000 words		16,000 words	32,000 words		8,000 words				
		(Up to 32k words × 25 banks when EM is specified in CX-Programmer)					(Up to 32k words × 4 banks when EM is specified in CX-Programmer)				
	Number of Samplings	Bits = 31, one-word data =16, two-word data = 8, four-word data = 4									
	Sampling Cycle	1 to 2,550 ms (Unit: 1 ms)									
	Trigger Conditions	ON/OFF of specified bit Data comparison of specified word Data size: 1 word, 2 words, 4 words Comparison method: Equals (=), Greater than (>), Greater than or equals (≥), Less than (<), Less than or equals (≤), Not equal (≠)									
	Delay Value	-32,768 to +32,767 ms									
File Memory		Memory Card (128, 256, or 512 Mbytes) (Use the Memory Cards provided by OMRON.) EM file memory (Part of the EM Area can be converted for use as file memory.)									
Source/ Comment Memory	Program source, comments, program index, and symbol table	Capacity: 3.5 Mbytes					Capacity: 1 Mbytes				

*1 The following times are added if EtherNet/IP data tag links are used for the CJ2H-CPU6_-EIP.
Normal operation: 100 µs + Number of transfer words × 0.33 µs
High-speed interrupt function enabled: 100 µs + Number of transfer words × 0.87 µs
The following time must be added when using EtherNet/IP tag data links for the CJ2M-CPU3_.
100 µs + (Number of words transferred × 1.8 µs)

*2 This applies when high-speed interrupts are used.

*3 A960 to A1471 and A10000 to A11535 cannot be accessed by CPU Bus Units, Special I/O Units, PTs, and Support Software that do not specifically support the CJ2 CPU Units.

*4 Bits in the EM Area can be addressed either by bit or by word. These bits cannot be addressed by CPU Bus Units, Special I/O Units, PTs, and Support Software that do not specifically support the CJ2 CPU Units.

*5 EM banks D to 18 cannot be accessed by CPU Bus Units, Special I/O Units, PTs, and Support Software that do not specifically support the CJ2 CPU Units.

*6 With CJ2H CPU Units with unit version 1.2 or later, force-setting/resetting bits in the EM Area is possible either for banks that have been specified for automatic address allocation or for banks specified for the EM Area force-set/reset function. With CJ2M CPU Units, force-setting/resetting bits in the EM Area is possible only for banks specified for the EM Area force-set/reset function.

*7 This data type cannot be used in Function blocks.

*8 This data type can be used only in Function blocks.

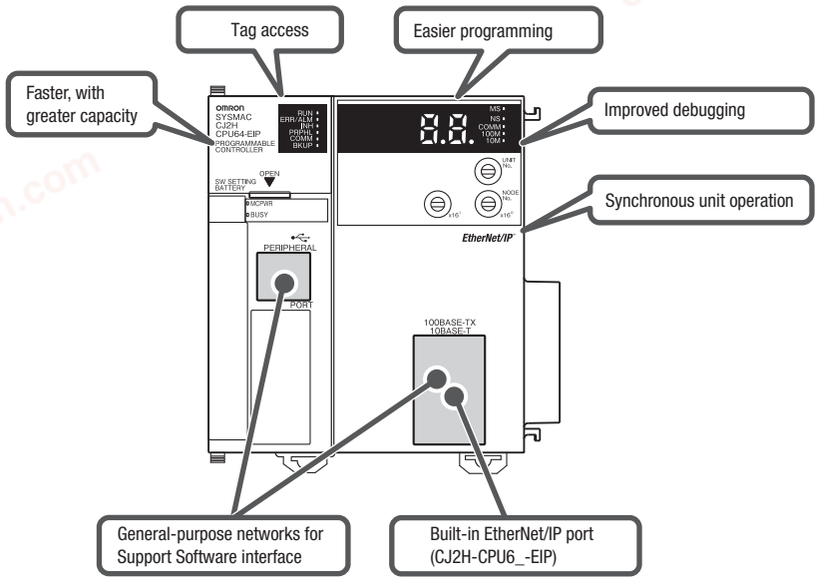
*9 Supported only when CX-Programmer version 9.0 or higher is used.

*10 Supported only by the CJ2H-CPU6_-EIP and CJ2M-CPU3_.

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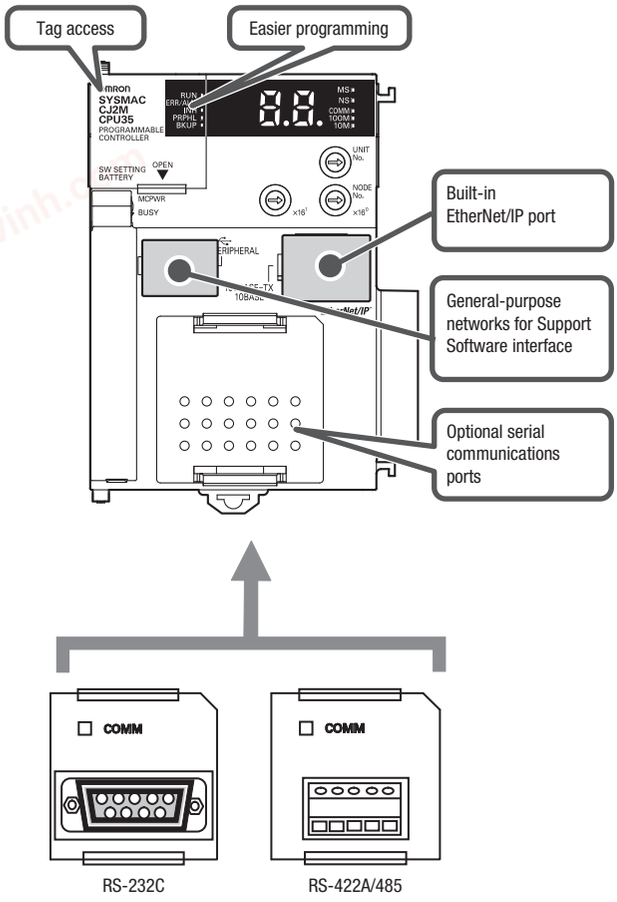
External interface diagrams

CJ2H CPU units

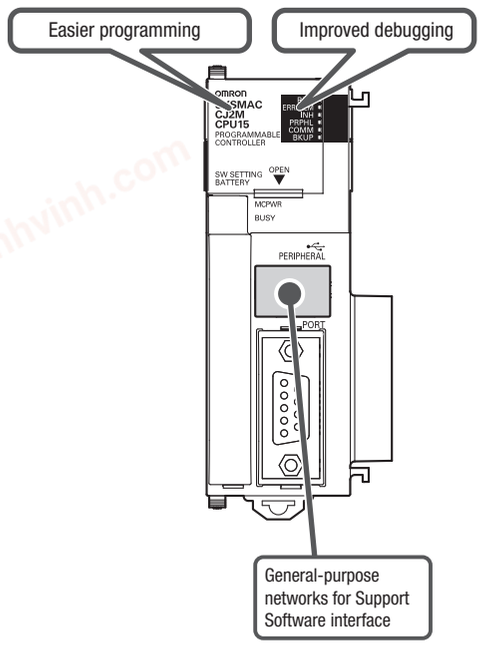


CJ2M CPU units

Standard CPU Unit (CJ2M-CPU3_)



Simple CPU Unit (CJ2M-CPU1_)

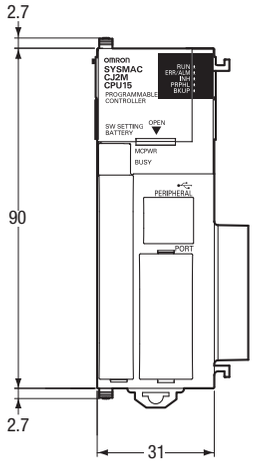


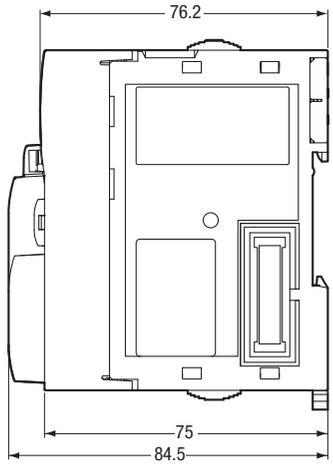
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Dimensions

CJ2M-CPU1_

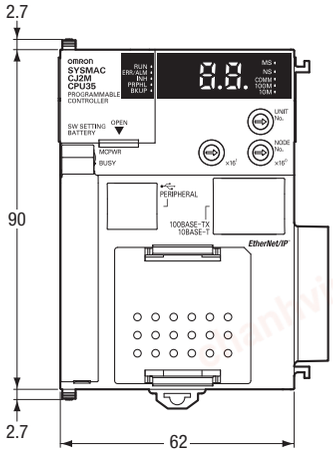


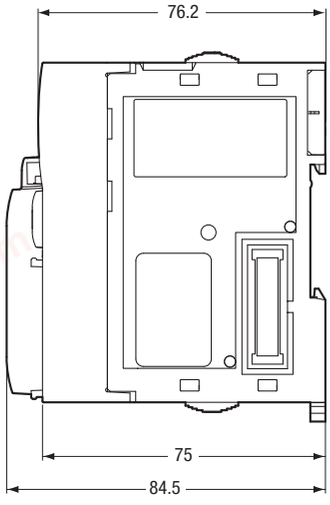




CJ2M-CPU3_



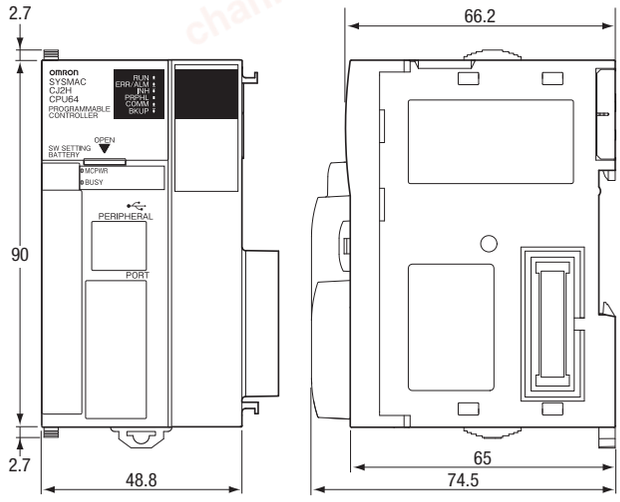




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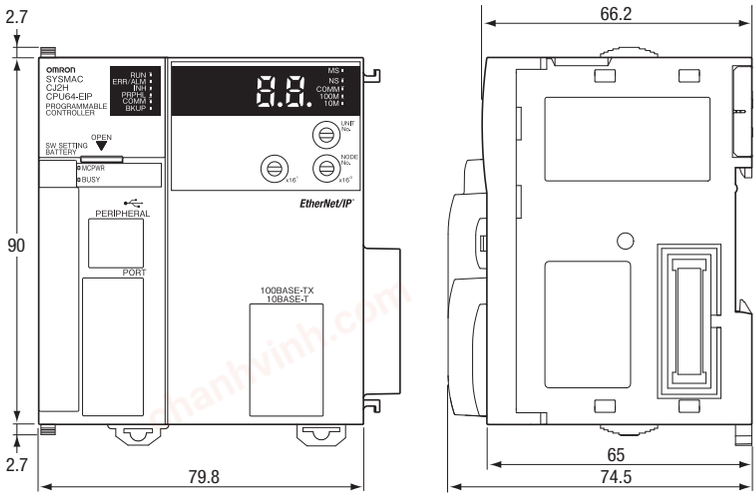
CJ2H-CPU6_





CJ2H-CPU6_-EIP





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CJ2-Series CPU units



Fast and powerful CPUs for any task

The comprehensive lineup of new CJ2 processors offer outstanding new features while evolving from the CJ1 series and its proven track record. The wide range of high performance CPU's allow scaleability and flexibility for any automation challenge. The new CJ2 CPU units offer increased capacity plus built-in USB and ethernet ports, yet are fully compatible with the extensive range of CJ1 I/O units. CJ2M CPU units can be equipped with pulse I/O option modules to perform position control for up to 4 axes, using dedicated instructions.

Improvements such as structures and arrays, tag based programming, and increased memory capacity ensure fast development and less cost for the user. The new CJ2M features communication plug-in modules, more function block memory, and new high speed I/O units while the CJ2H CPU's increased program memory area, synchronous unit operation, and fast processors ensure your machine will perform at a level higher than the competition.

Ordering information

Max. digital I/O points	Program capacity	Data memory capacity	Logic execution speed	Max. I/O units	Width	5 V current consumption	Communications	Order code
2,560	400 K	832 K	16 ns	40	80 mm	820 mA	USB + EtherNet/IP + RS-232C	CJ2H-CPU68-EIP
2,560	250 K	512 K	16 ns	40	80 mm	820 mA	USB + EtherNet/IP + RS-232C	CJ2H-CPU67-EIP
2,560	150 K	352 K	16 ns	40	80 mm	820 mA	USB + EtherNet/IP + RS-232C	CJ2H-CPU66-EIP
2,560	100 K	160 K	16 ns	40	80 mm	820 mA	USB + EtherNet/IP + RS-232C	CJ2H-CPU65-EIP
2,560	50 K	160 K	16 ns	40	80 mm	820 mA	USB + EtherNet/IP + RS-232C	CJ2H-CPU64-EIP
2,560	60 K	160 K	40 ns	40	62 mm	700 mA	USB + EtherNet/IP, serial comm. option slot	CJ2M-CPU35
2,560	30 K	160 K	40 ns	40	62 mm	700 mA	USB + EtherNet/IP, serial comm. option slot	CJ2M-CPU34
2,560	20 K	64 K	40 ns	40	62 mm	700 mA	USB + EtherNet/IP, serial comm. option slot	CJ2M-CPU33
2,560	10 K	64 K	40 ns	40	62 mm	700 mA	USB + EtherNet/IP, serial comm. option slot	CJ2M-CPU32
2,560	5 K	64 K	40 ns	40	62 mm	700 mA	USB + EtherNet/IP, serial comm. option slot	CJ2M-CPU31
2,560	400 K	832 K	16 ns	40	49 mm	420 mA	USB + RS-232C	CJ2H-CPU68
2,560	250 K	512 K	16 ns	40	49 mm	420 mA	USB + RS-232C	CJ2H-CPU67
2,560	150 K	352 K	16 ns	40	49 mm	420 mA	USB + RS-232C	CJ2H-CPU66
2,560	100 K	160 K	16 ns	40	49 mm	420 mA	USB + RS-232C	CJ2H-CPU65
2,560	50 K	160 K	16 ns	40	49 mm	420 mA	USB + RS-232C	CJ2H-CPU64
2,560	60 K	160 K	40 ns	40	31 mm	500 mA	USB + RS-232C	CJ2M-CPU15
2,560	30 K	160 K	40 ns	40	31 mm	500 mA	USB + RS-232C	CJ2M-CPU14
2,560	20 K	64 K	40 ns	40	31 mm	500 mA	USB + RS-232C	CJ2M-CPU13
2,560	10 K	64 K	40 ns	40	31 mm	500 mA	USB + RS-232C	CJ2M-CPU12
2,560	5 K	64 K	40 ns	40	31 mm	500 mA	USB + RS-232C	CJ2M-CPU11

Accessories

Description	Remarks	Order code
Pulse I/O option module for CJ2M CPU Units, 2 encoder inputs, 2 pulse outputs	NPN (sinking) outputs	CJ2M-MD211
	PNP (sourcing) outputs	CJ2M-MD212
Memory Cards	Flash Memory, 128 MB	HMC-EF183
	Flash Memory, 256 MB	HMC-EF283
	Flash Memory, 512 MB	HMC-EF583
	Memory Card Adapter (for computer PCMCIA slot)	HMC-AP001
RS-232C Option Board*1	–	CP1W-CIF01
RS-422A/485 Option board*1	–	CP1W-CIF11
RS422A/485 (isolated) Option board*1	–	CP1W-CIF12
Battery Set*2	–	CJ1W-BAT01
USB Programming cable	–	CP1W-CN221

*1 Only used with CJ2M-CPU3_
*2 Included with the CPU unit

Software

Cx-One FULL	Media	Order code
Single user licence	Licence only	CXONE-AL01-EV_
Three user licence	Licence only	CXONE-AL03-EV_
Ten user licence	Licence only	CXONE-AL10-EV_
Thirty user licence	Licence only	CXONE-AL30-EV.
Fifty user licence	Licence only	CXONE-AL50-EV_
Site licence	Licence only	CXONE-ALOXX-EV_
Software on CDs	CD	CXONE-CD-EV_
Software on a DVD	DVD	CXONE-DVD-EV_

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CJ-Series power supplies, expansions



Power and flexibility

CJ systems can operate on 24 VDC power supply, or on 100 to 240 VAC mains. For small-scale systems with mainly digital I/O a low-cost small-capacity power supply can be used. For systems with many analogue I/Os and control/communication units, it may be necessary to use a larger power supply unit.

Depending on the CPU type, up to 3 expansions can be connected to the CPU 'rack', giving a total capacity of 40 I/O units. The total length of the expansion cables of one system may be up to 12 m.

Ordering information

Power supply

Input range	Power consumption	Output capacity at 5 VDC	Output capacity at 24 VDC	Max. output power	Features	Width	Order code
21.6 to 26.4 VDC	35 W max.	2.0 A	0.4 A	16.6 W	–	27 mm	CJ1W-PD022
19.2 to 28.8 VDC	50 W max.	5.0 A	0.8 A	25 W	–	60 mm	CJ1W-PD025
85 to 264 VAC 47 to 63 Hz	50 VA max.	2.8 A	0.4 A	14 W	–	45 mm	CJ1W-PA202
	100 VA max.	5.0 A	0.8 A	25 W	Run output (SPST relay)	80 mm	CJ1W-PA205R
					Maintenance status display	80 mm	CJ1W-PA205C

Note: The CJ1W-PD022 has no galvanic isolation

I/O expansion

Type	Description	Width, Length	Order code
I/O control unit	Required unit on CPU 'rack' to connect I/O expansions	20 mm	CJ1W-IC101
I/O interface unit	Start unit for each I/O expansion 'rack'. Requires a power supply unit.	31 mm	CJ1W-II101
I/O expansion cable	Connects CJ1W-IC101 or -II101 to the next expansion rack's -II101	0.3 m	CS1W-CN313
		0.7 m	CS1W-CN713
		2.0 m	CS1W-CN223
		3.0 m	CS1W-CN323
		5.0 m	CS1W-CN523
		10 m	CS1W-CN133
		12 m	CS1W-CN133-B2

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CJ-Series digital I/O units



8 to 64 points per unit – input, output or mixed

Digital I/O units serve as the PLC's interface to achieve fast, reliable sequence control. A full range of units, from high-speed DC inputs to relay outputs, let you adapt CJ1 to your needs.

CJ1 units are available with various I/O densities and connection technologies. Up to 16 I/O points can be wired to units with detachable M3 screw terminals or screwless clamp terminals. High-density 32- and 64- point I/O units are equipped with standard 40-pin flat cable-connectors. Prefabricated cables and wiring terminals are available for easy interfacing to high-density I/O units.

Ordering information

Points	Type	Rated voltage	Rated current	Width	Remarks	Connection type*1	Order code
16	AC input	120 VAC	7 mA	31 mm	–	M3	CJ1W-IA111
8	AC input	240 VAC	10 mA	31 mm	–	M3	CJ1W-IA201
8	DC input	24 VDC	10 mA	31 mm	–	M3	CJ1W-ID201
16	DC input	24 VDC	7 mA	31 mm	–	M3 Screwless	CJ1W-ID211 CJ1W-ID211(SL)
16	DC input	24 VDC	7 mA	31 mm	Fast-response (15 µs ON, 90 µs OFF)	M3	CJ1W-ID212
16	DC input	24 VDC	7 mA	31 mm	Inputs start interrupt tasks in PLC program	M3	CJ1W-INT01
16	DC input	24 VDC	7 mA	31 mm	Latches pulses down to 50 µs pulse width	M3	CJ1W-IDP01
32	DC input	24 VDC	4.1 mA	20 mm	–	1 x Fujitsu	CJ1W-ID231
32	DC input	24 VDC	4.1 mA	20 mm	–	1 x MIL*1 (40 pt)	CJ1W-ID232
32	DC input	24 VDC	4.1 mA	20 mm	Fast-response (15 µs ON, 90 µs OFF)	1 x MIL*1 (40 pt)	CJ1W-ID233
64	DC input	24 VDC	4.1 mA	31 mm	–	2 x Fujitsu	CJ1W-ID261
64	DC input	24 VDC	4.1 mA	31 mm	–	2 x MIL*1 (40 pt)	CJ1W-ID262
8	Triac output	250 VAC	0.6 mA	31 mm	–	M3	CJ1W-OA201
8	Relay output	250 VAC	2 A	31 mm	–	M3 Screwless	CJ1W-OC201 CJ1W-OC201(SL)
16	Relay output	250 VAC	2 A	31 mm	–	M3 Screwless	CJ1W-OC211 CJ1W-OC211(SL)
8	DC output (sink)	12 to 24 VDC	2 A	31 mm	–	M3	CJ1W-OD201
8	DC output (source)	24 VDC	2 A	31 mm	With short-circuit protection, alarm	M3	CJ1W-OD202
8	DC output (sink)	12 to 24 VDC	0.5 A	31 mm	–	M3	CJ1W-OD203
8	DC output (source)	24 VDC	0.5 A	31 mm	With short-circuit protection, alarm	M3	CJ1W-OD204
16	DC output (sink)	12 to 24 VDC	0.5 A	31 mm	–	M3 Screwless	CJ1W-OD211 CJ1W-OD211 (SL)
16	DC output (source)	24 VDC	0.5 A	31 mm	With short-circuit protection, alarm	M3 Screwless	CJ1W-OD212 CJ1W-OD212 (SL)
16	DC output (sink)	24 VDC	0.5 A	31 mm	Fast-response (15 µs ON, 80 µs OFF)	M3	CJ1W-OD213
32	DC output (sink)	12 to 24 VDC	0.5 A	20 mm	–	1 x Fujitsu	CJ1W-OD231
32	DC output (source)	24 VDC	0.3 A	20 mm	With short-circuit protection, alarm	1 x MIL*1 (40 pt)	CJ1W-OD232
32	DC output (sink)	12 to 24 VDC	0.5 A	20 mm	–	1 x MIL*1 (40 pt)	CJ1W-OD233
32	DC output (sink)	24 VDC	0.5 A	20 mm	Fast-response (15 µs ON, 80 µs OFF)	1 x MIL*1 (40 pt)	CJ1W-OD234
64	DC output (sink)	12 to 24 VDC	0.3 A	31 mm	–	2 x Fujitsu	CJ1W-OD261
64	DC output (source)	24 VDC	0.3 A	31 mm	–	2 x MIL*1 (40 pt)	CJ1W-OD262
64	DC output (sink)	12 to 24 VDC	0.3 A	31 mm	–	2 x MIL*1 (40 pt)	CJ1W-OD263
16 +16	DC in+out (sink)	24 VDC	0.5 A	31 mm	–	2 x Fujitsu	CJ1W-MD231
16 +16	DC in+out (source)	24 VDC	0.5 A	31 mm	–	2 x MIL*1 (20 pt)	CJ1W-MD232
16 +16	DC in+out (sink)	24 VDC	0.5 A	31 mm	–	2 x MIL*1 (20 pt)	CJ1W-MD233
32 +32	DC in+out	24 VDC	0.3 A	31 mm	–	2 x Fujitsu	CJ1W-MD261
32 +32	DC in+out (sink)	24 VDC	0.3 A	31 mm	–	2 x MIL*1 (40 pt)	CJ1W-MD263
32 +32	DC in+out (TLL)	5 VDC	35 mA	31 mm	–	2 x MIL*1 (40 pt)	CJ1W-MD563

*1 MIL = connector according to MIL-C-83503 (compatible with DIN 41651/IEC 60603-1).

Note: All digital I/O unit are designated as basic I/O units.

Accessories

Description	Connection type	Order code
Replacement 18-point screwless terminal blocks for I/O units, pack of 5 pcs.	Screwless	CJ-WM01-18P-5
Replacement 18-point screw terminal blocks for I/O units, pack of 5 pcs.	M3	CJ-OD507-18P-5
I/O terminal block (40×M3 screw) for XW2Z-___K	MIL (40pt)	XW2D-40G6
Connection cable between I/O terminal block and I/O unit (___ = length in cm)	MIL (40pt)	XW2Z-___K

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CJ-Series analog I/O and control units



From basic analogue I/O to advanced temperature control

The CJ-series offers a wide choice of analogue input units, fit for any application, from low-speed, multi-channel temperature measurement to high-speed, high-accuracy data acquisition. Analogue outputs can be used for accurate control or external indication.

Advanced units with built-in scaling, filtering and alarm functions reduce the need for complex PLC programming. High-accuracy process I/O units support an extensive range of sensors, for fast and accurate data acquisition. Temperature control units relieve the PLC CPU of PID calculations and alarm monitoring. These functions are handled autonomously by the unit, offering control performance and autotuning functions similar to stand-alone temperature controllers.

Ordering information

Points	Type	Ranges	Resolution	Accuracy *1	Conversion time	Width	Remarks	Connection type	Order code
4	Universal analogue input	0 to 5 V 1 to 5 V 0 to 10 V 0 to 20 mA 4 to 20 mA K, J, T, L, R, S, B Pt100, Pt1000, JPt100	V / I: 1/12000 T/C: 0.1 °C RTD: 0.1 °C	V: 0.3% I: 0.3% T/C: 0.3% RTD: 0.3%	250 ms/4 point	31 mm	Universal inputs, with zero/span adjustment, configurable alarms, scaling, sensor error detection	M3	CJ1W-AD04U
								Screwless	CJ1W-AD04U(SL)
4	Analogue input	0 to 5 V, 0 to 10 V, -10 to 10 V, 1 to 5 V, 4 to 20 mA	1/8,000	V: 0.2% I: 0.4%	250 µs/point	31 mm	Offset/gain adjustment, peak hold, moving average, alarms	M3	CJ1W-AD041-V1
								Screwless	CJ1W-AD041-V1 (SL)
4	High-speed analogue input	1 to 5 V, 0 to 10 V, -5 to 5 V, -10 to 10 V, 4 to 20 mA	1/40,000	V: 0.2% I: 0.4%	35 µs/4 points	31 mm	Direct conversion (CJ2H special instruction)	M3	CJ1W-AD042
8	Analogue input	1 to 5 V, 0 to 10 V, -10 to 10 V, 1 to 5 V, 4 to 20 mA	1/8,000	V: 0.2% I: 0.4%	250 µs/point	31 mm	Offset/gain adjustment, peak hold, moving average, alarms	M3	CJ1W-AD081-V1
								Screwless	CJ1W-AD081-V1 (SL)
2	Analogue output	0 to 5 V, 0 to 10 V, -10 to 10 V, 1 to 5 V, 4 to 20 mA	1/4,000	V: 0.3% I: 0.5%	1 ms/point	31 mm	Offset/gain adjustment, output hold	M3	CJ1W-DA021
								Screwless	CJ1W-DA021 (SL)
4	Analogue output	1 to 5 V, 0 to 10 V, -10 to 10 V, 1 to 5 V, 4 to 20 mA	1/4,000	V: 0.3% I: 0.5%	1 ms/point	31 mm	Offset/gain adjustment, output hold	M3	CJ1W-DA041
								Screwless	CJ1W-DA041 (SL)
4	High-speed analogue output	1 to 5 V, 0 to 10 V, -10 to 10 V	1/40,000	0.3%	35 µs/4 points	31 mm	Direct conversion (CJ2H special instruction)	M3	CJ1W-DA042V
8	Voltage output	0 to 5 V, 0 to 10 V, -10 to 10 V, 1 to 5 V	1/8,000	0.3%	250 µs/point	31 mm	Offset/gain adjustment, output hold	M3	CJ1W-DA08V
								Screwless	CJ1W-DA08V (SL)
8	Current output	4 to 20 mA	1/8,000	0.5%	250 µs/point	31 mm	Offset/gain adjustment, output hold	M3	CJ1W-DA08C
								Screwless	CJ1W-DA08C (SL)
4 + 2	Analogue in + output	1 to 5 V, 0 to 10 V, -10 to 10 V, 1 to 5 V, 4 to 20 mA	1/8,000	in: 0.2% out: 0.3%	1 ms/point	31 mm	Offset/gain adjustment, scaling, peak hold, moving average, alarms, output hold	M3	CJ1W-MAD42
								Screwless	CJ1W-MAD42 (SL)
4	Universal analogue input	DC voltage, DC current, Thermocouple, Pt100/Pt1000, potentiometer	1/256000	0.05%	60 ms/4 points	31 mm	All inputs individually isolated, configurable alarms, maintenance functions, user-defined scaling, zero/span adjustment	M3	CJ1W-PH41U
2	Process input	4 to 20 mA 0 to 20 mA 0 to 10 V, -10 to 10 V, 0 to 5 V, -5 to 5 V, 1 to 5 V, 0 to 1.25 V, 1.25 to 1.25 V	1/64,000	0.05%	5 ms/point	31 mm	Configurable alarms, maintenance functions, user-defined scaling, zero/span adjustment, square root, totaliser	M3	CJ1W-PDC15

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CJ-Series analog I/O and control units

Points	Type	Ranges	Resolution	Accuracy *1	Conversion time	Width	Remarks	Connection type	Order code
2	Thermocouple input	B, E, J, K, L, N, R, S, T, U, WRe5-26, PLII, -100 to 100 mV	1/64,000	0.05%	5 ms/point	31 mm	Configurable alarms, maintenance functions	M3	CJ1W-PTS15
2	Resistance thermometer input	Pt50, Pt100, JPt100, Ni508.4	1/64,000	0.05%	5 ms/point	31 mm	Configurable alarms, maintenance functions	M3	CJ1W-PTS16
4	Thermocouple Input	B, J, K, L, R, S, T	0.1°C	0.3%	62.5 ms/point	31 mm	4 configurable alarm outputs	M3	CJ1W-PTS51
4	Resistance thermometer input	Pt100, JPt100	0.1°C	0.3%	62.5 ms/point	31 mm	4 configurable alarm outputs	M3	CJ1W-PTS52
6	Thermocouple input	K-type (-200 to 1,300°C) J-Type (-100 to 850°C)	0.1°C	0.5%	40 ms/point	31 mm	Basic I/O unit, setup by DIPswitches, adjustable filtering 10/50/60 Hz	M3	CJ1W-TS561
								Screwless	CJ1W-TS561 (SL)
6	Resistance thermometer input	Pt100 (-200 to 650°C) Pt1000 (-200 to 650°C)	0.1°C	0.5%	40 ms/point	31 mm	Basic I/O unit, setup by DIPswitches, adjustable filtering 10/50/60 Hz	M3	CJ1W-TS562
								Screwless	CJ1W-TS562 (SL)
4	Temperature control loops, Thermocouple	B, J, K, L, R, S, T	0.1°C	0.3%	500 ms total	31 mm	4 control outputs: PNP open collector, 100 mA max.	M3	CJ1W-TC002
2	Temperature control loops, Thermocouple	B, J, K, L, R, S, T	0.1°C	0.3%	500 ms total	31 mm	2 control outputs: PNP open collector, 100 mA max., 2 current transformerinputs for heater burnout detection.	M3	CJ1W-TC004
4	Temperature control loops, RTD	Pt100, JPt100	0.1°C	0.3%	500 ms total	31 mm	4 control outputs: PNP open collector, 100 mA max.	M3	CJ1W-TC102
2	Temperature control loops, RTD	Pt100, JPt100	0.1°C	0.3%	500 ms total	31 mm	2 control outputs: PNP open collector, 100 mA max., 2 current transformerinputs for heater burnout detection.	M3	CJ1W-TC104

*1 Accuracy for Voltage and Current Inputs/Outputs as percentage of full scale and typical value at 25°C ambient temperature (Consult the operation manual for details)
Accuracy for Temperature Inputs/Outputs as percentage of process value and typical value at 25°C ambient temperature (Consult the operation manual for details)

Note: All Analogue I/O units are designated as Special I/O units, except TS561/TS562, which are Basic I/O units (cannot be used with CP1H).

Accessories

Description	Connection type	Order code
Replacement 18-point screwless terminal blocks for I/O units, pack of 5 pcs.	Screwless	CJ-WM01-18P-5
Replacement 18-point screw terminal blocks for I/O units, pack of 5 pcs.	M3	CJ-OD507-18P-5

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CJ-Series motion/position control units



Add motion control to any CJ-Series PLC

From simple position measurement to multi-axis synchronised motion control, the CJ-Series offers a full range of units:

- Counter units gather position information from SSI- or incremental encoders. Actual positions are compared with internally stored target values.
- CJ2M CPU Units have dedicated positioning functions that can be used by installing up to 2 Pulse I/O option modules.
- Position Control units are used for point-to-point positioning with servo drives or stepper motors. Target data and acceleration/deceleration curves can be adjusted on-the-fly.
- Position- and Motion Control units equipped with MECHATROLINK-II interface can control multiple drives through a single high-speed link. Message routing through multiple communication layers allows the attached drives to be configured from any point in the control network.

Ordering information

Channels/ Axes	Type	Signal type	Unit class	Width	Remarks	Connection type	Order code
2	SSI inputs (absolute position data)	Synchronous serial protocol	Special I/O unit	31 mm	Baud rate, encoding type, data length, etc. can be set per channel	M3 screw	CJ1W-CTS21-E
2	500 kHz Counter	24 V, line driver	Special I/O unit	31 mm	2 configurable digital inputs + outputs	1 x Fujitsu (40 pt)	CJ1W-CT021
4	100 kHz Counter	Line driver, 24 V via terminal block	Special I/O unit	31 mm	Target values trigger interrupt to CPU	1 x MIL (40 pt)	CJ1W-CTL41-E
1	DC Motor Control unit	PWM (24 V/4 A)	Special I/O unit	31 mm	4 configurable digital inputs + 50 kHz counter input	3 x Screwless	CJ1W-DCM11-E
2	Pulse I/O option module for CJ2M CPU	24 V, line driver	CPU Option Module	20 mm	100 kpps encoder inputs and pulse outputs, NPN (sinking), interrupt / fast response inputs	1 x MIL (40 pt)	CJ2M-MD211
2	Pulse I/O option module for CJ2M CPU	24 V, line driver	CPU Option Module	20 mm	100 kpps encoder inputs and pulse outputs, PNP (sourcing), interrupt / fast response inputs	1 x MIL (40 pt)	CJ2M-MD212
1	Position Control unit	24 V open collector	Special I/O unit	31 mm	500 kpps pulse outputs, inputs for origin, limit switches, stop, interrupt	1 x Fujitsu (40 pt)	CJ1W-NC113
2	Position Control unit	24 V open collector	Special I/O unit	31 mm	500 kpps pulse outputs, inputs for origin, limit switches, stop, interrupt	1 x Fujitsu (40 pt)	CJ1W-NC213
4	Position Control unit	24 V open collector	Special I/O unit	31 mm	500 kpps pulse outputs, inputs for origin, limit switches, stop, interrupt	2 x Fujitsu (40 pt)	CJ1W-NC413
2	Position Control Unit High speed type	24 V open collector	Special I/O Unit	51 mm	500 kpps pulse outputs, built-in feedback pulse counters, synchronous multi-axis control	MIL	CJ1W-NC214
4	Position Control Unit High speed type	24 V open collector	Special I/O Unit	62 mm	500 kpps pulse outputs, built-in feedback pulse counters, synchronous multi-axis control	MIL	CJ1W-NC414
2	Position Control Unit	MECHATROLINK-II	CPU bus unit	31 mm	Position, speed and torque control, access to all drive parameters	ML-II	CJ1W-NC271
4	Position Control Unit	MECHATROLINK-II	CPU bus unit	31 mm	Position, speed and torque control, access to all drive parameters	ML-II	CJ1W-NC471
16	Position Control unit	MECHATROLINK-II	CPU bus unit	31 mm	Position, speed and torque control, access to all drive parameters	ML-II	CJ1W-NCF71
30	Advanced Motion Control unit	MECHATROLINK-II, Encoder I/O, digital I/O	CPU bus unit	49 mm	Trajexia Motion Controller on the CJ-series	ML-II, 9-pin D-Sub, screwless push-in	CJ1W-MCH72

Note: Line driver signal type units also available.

Accessories

Description	Connection type	Order code
General purpose I/O terminal block (40×M3 screw)	MIL (40 pt)	XW2D-40G6
Screwless terminal block for connecting 24 V or Line driver encoders to CJ1W-CTL41-E	MIL (40 pt.) to 32 pt. screwless clamp	XW2G-40G7-E
General purpose I/O connection cable for I/O units with 40-pt. Fujitsu connector (___ = length in cm)	Fujitsu (40 pt.) to MIL (40 pt.)	XW2Z-___B
General purpose I/O connection cable for I/O units with 40-pt. MIL connector (___ = length in cm)	2 x MIL (40 pt)	XW2Z-___K
Servo relay unit 1-Axis position control unit	–	XW2B-20J6-1B
Servo relay unit 2-Axes position control unit	–	XW2B-40J6-2B
Cable connecting servo relay unit to Position control unit CJ1W-NC113, cable length 1 m. For Sigma-5 and Sigma-II servo drives.	–	XW2Z-100J-A14
Cable connecting servo relay unit to Position control unit CJ1W-NC213/413, cable length 1 m. For Sigma-5 and Sigma-II servo drives.	–	XW2Z-100J-A15
Cable connecting servo relay unit to Position control unit CJ1W-NC113, cable length 1 m. For SmartStep servo drives.	–	XW2Z-100J-A16
Cable connecting servo relay unit to Position control unit CJ1W-NC213/413, cable length 1 m. For SmartStep servo drives.	–	XW2Z-100J-A17
Cable connecting servo relay unit to Position control unit CJ1W-NC133, cable length 1 m. For Sigma-5 and Sigma-II servo drives.	–	XW2Z-100J-A18
Cable connecting servo relay unit to Position control unit CJ1W-NC233/433, cable length 1 m. For Sigma-5 and Sigma-II servo drives.	–	XW2Z-100J-A19
Cable connecting servo relay unit to Position control unit CJ1W-NC133, cable length 1 m. For SmartStep servo drives.	–	XW2Z-100J-A20
Cable connecting servo relay unit to Position control unit CJ1W-NC233/433, cable length 1 m. For SmartStep servo drives.	–	XW2Z-100J-A21
Cable connecting servo relay unit to Sigma-5 and Sigma-II servo drives, cable length 1 m.	–	XW2Z-100J-B4
Cable connecting servo relay unit to SmartStep servo drive, cable length 1 m.	–	XW2Z-100J-B5

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CJ-Series communication units



Open to any communication

The CJ-Series offers both standardised open networks interfaces, and cost-efficient high-speed proprietary network links. Datalinks between PLCs, or to higher-level information systems can be made using serial or Ethernet links, or the easy-to-use controller link network.

Omron supports the 2 major field networks, DeviceNet and PROFIBUS-DP. For high-speed field I/O, Omron's own CompoBus/S offers an unsurpassed ease of installation. Fully user-configurable serial and CAN-based communication can be used to emulate a variety of application-specific protocols. EtherNet/IP units provide data link functions to share large amounts of data between PLCs. The new PROFINET-IO controller together with the SmartSlice modular I/O system offers ethernet-based I/O with controller- and network redundancy.

Ordering information

Type	Ports	Data transfer	Protocols	Unit class	Width	Connection type	Order code
Serial	2 x RS-232C		CompoWay/F, Host link, NT link, Modbus, User-defined	CPU bus unit	31 mm	9-pin D-Sub	CJ1W-SCU21-V1
Serial	2 x RS-232C	High-speed	CompoWay/F, Host link, NT link, Modbus, User-defined	CPU bus unit	31 mm	9-pin D-Sub	CJ1W-SCU22
Serial	2 x RS-422A/RS-485		CompoWay/F, Host link, NT link, Modbus, User-defined	CPU bus unit	31 mm	9-pin D-Sub	CJ1W-SCU31-V1
Serial	2 x RS-422A/RS-485	High-speed	CompoWay/F, Host link, NT link, Modbus, User-defined	CPU bus unit	31 mm	9-pin D-Sub	CJ1W-SCU32
Serial	1 x RS-232C + 1 x RS-422/RS-485		CompoWay/F, Host link, NT link, Modbus, User-defined	CPU bus unit	31 mm	9-pin D-Sub	CJ1W-SCU41-V1
Serial	1 x RS-232C + 1 x RS-422/RS-485	High-speed	CompoWay/F, Host link, NT link, Modbus, User-defined	CPU bus unit	31 mm	9-pin D-Sub	CJ1W-SCU42
Ethernet	1 x 100 Base-Tx		UDP, TCP/IP, FTP server,SMTP (e-mail), SNTP (time adjust), FINS routing, socket service	CPU bus unit	31 mm	RJ45	CJ1W-ETN21
EtherNet/IP	1 x 100 Base-Tx		EtherNet/IP, UDP, TCP/IP, FTP server, SNTP, SNMP	CPU Bus unit	31 mm	RJ45	CJ1W-EIP21
Controller link	2-wire twisted pair		Omron proprietary	CPU bus unit	31 mm	2-wire screw + GND	CJ1W-CLK21-V1
DeviceNet	1 x CAN		DeviceNet	CPU bus unit	31 mm	5-p detachable	CJ1W-DRM21
PROFIBUS-DP	1 x RS-485 (Master)		DP, DPV1	CPU bus unit	31 mm	9-pin D-Sub	CJ1W-PRM21
PROFIBUS-DP	1 x RS-485 (Slave)		DP	Special I/O unit	31 mm	9-pin D-Sub	CJ1W-PRT21
PROFINET-IO	1 x 100 Base-Tx		PROFINET-IO Controller, FINS/UDP	CPU Bus unit	31 mm	RJ45	CJ1W-PNT21
CAN	1 x CAN		User-defined, supports 11-bit and 29-bit identifiers	CPU bus unit	31 mm	5-p detachable	CJ1W-CORT21
CompoNet	4-wire, data + power to slaves (Master)		CompoNet (CIP-based)	Special I/O unit	31 mm	4-p detachable IDC or screw	CJ1W-CRM21
CompoBus/S	2-wire (Master)		Omron proprietary	Special I/O unit	20 mm	2-wire screw + 2-wire power	CJ1W-SRM21

Accessories

Description	Connection type	Order code
RS-232C to RS-422/RS-485 signal converter. Mounts directly on serial port.	9-pin D-sub to screw clamp terminals	CJ1W-CIF11
Controller link PCI board with support software	PCI, wired CLK	3G8F7-CLK21-EV1
Controller link repeater unit (wire to wire)	Screw - Screw	CS1W-RPT01
Controller link repeater unit (wire to HPCF fibre)	Screw - HPCF connector	CS1W-RPT02
Controller link repeater unit (wire to graded-index glass fibre)	Screw - ST connector	CS1W-RPT03

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